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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,130	01/29/2002	Taku Ishizawa	Q66313	8010

7590 09/25/2002
Sughrue Mion Zinn Macpeak & Seas
2100 Pennsylvania Avenue NW
Washington, DC 20037-3213

EXAMINER

VO, ANH T N

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 09/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/937,130

Applicant(s)

ISHIZAWA ET AL.

Examiner

ANH VO

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above, claim(s) 14-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-13 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 7
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Oath/Declaration

The declaration filed 29 January 2002 is acceptable.

Election /Restriction

1. Applicant 's election without traverse of invention I in Paper No. 10 is acknowledged.
2. Claims 14-49 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b) as being drawn to non-elected invention. Election was made **without** traverse in paper No. 10.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The references cited on PTO 1449 have been considered.

Drawings Object to

The drawings are objected to because the recitations "circuit board attaching means" and "projection for heat-welding" in claims 7-8 is not shown on the drawings.

Specification

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

CLAIM REJECTIONS

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claim 6 is rejected under 35 USC 102 (e) as being anticipated by Childers et al. (U.S. Pat. 6,130,695).

Childers et al. disclose in Figures 1-10 an ink cartridge for use in an ink jet apparatus comprising:

- an ink cartridge including (12) a circuit board (78) having data-readable storage means (26) in which ink information can be stored, and which is removably mounted to the recording apparatus, wherein the circuit board (78) is attached to a cartridge case (12) within a box-shaped space, two surfaces (80) of which intersect at right angles and are opened (Figures 7 and 10);
- means (adhesive) for attaching the circuit board (78) is exposed toward one of the opened surfaces (Figures 7 and 10, column 7, lines 31-33);
- a terminal mechanism (70) arranged on the recording apparatus is electrically connected to the circuit board (78) through the other of the opened surfaces (80) in a state where the cartridge (12) is mounted to the recording apparatus (Figurs 9-10).

Claim 10 is rejected under 35 USC 102 (a) as being anticipated by Sato (JP. Pat. 60198256).

Sato discloses in Figures 1-4 an ink storage apparatus comprising:

- an ink pack (12) formed from flexible material and sealingly storing ink therein, and a cartridge case (11) housing the ink pack (12) and having an outer shell formed hermetically, and which is so constructed that pressurized air (16, 20) can be introduced into the case (11) in a mounted state to the recording apparatus, wherein in case that the ink cartridge (10) is mounted to the recording apparatus, after an ink outlet port (15) formed on the ink cartridge (10) is connected to the recording apparatus, a pressurized air inlet port (16) formed on the ink cartridge (10) is connected to the recording apparatus.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 7-9, and 11-13 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Sato (JP Pat. 60198256) in view of Mochizuki et al. (US Pat. 5,666,146) and Childers et al. (US Pat. 6,130,695).

Sato discloses in Figures 1-3 an ink storage apparatus comprising:

- an ink pack (12) formed from flexible material and sealingly storing ink therein, and a cartridge case (11) housing the ink pack (12) and formed hermetically, and which is so constructed that pressurized air (16, 20) is introduced into the case (11) in a mounted state to the recording apparatus;
- an ink outlet port (15) from the ink pack (12);
- an inlet port (16) for the pressurized air;
- the pressurized air inlet port (16) provided to the ink cartridge (10) is formed in a shape of a hollow cylindrical member formed integrally with the cartridge case (11).

However, Sato does not disclose on one surface of the cartridge case, there are provided positioning means used when the cartridge is mounted to the recording apparatus; the positioning means is constructed by an opening hole formed so as to surround a positioning pin arranged in

the recording apparatus; wherein the opening hole constructing the positioning means is arranged at each of two locations along a longitudinal direction on the one surface of the case; the ink outlet port from the ink pack is arranged substantially in a center between the opening holes arranged at the two locations; on one surface of the cartridge case including a connection terminal of a circuit board having data storage means; the circuit board attaching means being constructed by a projection for heat-welding, which is formed integrally with the cartridge case; the circuit board being attached to the cartridge case such that the projection for heat welding is passed through a part of the circuit board and a top of the projection is heat-caulked; and the inlet port is set to 2- 20 mm.

Nevertheless, Mochizuki et al. disclose in Figures 1 and 4 an ink cartridge for an ink jet recording apparatus comprising:

- on one surface (4a) of the cartridge case (4), there are provided positioning means (4g, 4h) used when the cartridge (8) is mounted to the recording apparatus (Fig. 4);
- the positioning means (4g, 4h) is constructed by an opening hole formed so as to surround a positioning pin (16, 17) arranged in the recording apparatus (Fig. 4);
- wherein the opening hole constructing the positioning means (4g, 4h) is arranged at each of two locations along a longitudinal direction on the one surface (4a) of the case (4) (Figures 1 and 4);
- the ink outlet port (2) from the ink pack (1) is arranged substantially in a center between the opening holes (4g, 4h) arranged at the two locations (Figure 1).

Furthermore, Ujita discloses in Figures 3-5 and 8 an ink cartridge for use in an ink jet apparatus comprising:

- a cartridge case (12) housing the ink pack (22);

- on one surface of the cartridge case (12) including a connection terminal (24) of a circuit board (78) having data storage means (26).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Mochizuki et al. and Childers et al. into the Sato ink storage apparatus for the purpose of correctly holding an ink cartridge case at a predetermined position and providing an information storage device relating the level of deliverable ink in an ink.

It is noted that the recitation "the circuit board attaching means is constructed by a projection for heat-welding, which is formed integrally with the cartridge case such that the projection for heat welding is passed through a part of the circuit board and a top of the projection is heat-caulke" instead of adhesive means for performing the function of attaching the circuit board and the cartridge case as recited in the Childers et al. reference is a design expedient for one of ordinary skill in the art for the purpose of attaching between two elements, ie., the circuit board and the ink cartridge case. Also the recitation "the inlet port is set to 2- 20 mm" it is seen as a mechanical design expedient for an engineer depending upon particular environment and applications in which the Sato ink cartridge is to be used. Also, since it has been held that where the general conditions of a claim are discovered the optimum or workable range involves only routine skill in the art for the purpose of providing a fluid port communicating between the inside and outside of an ink cartridge case.

Allowable Subject Matter

Claim 5 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. This claims would be allowable because none of the prior art

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references of record discloses an ink cartridge comprising a connection terminal of the circuit board and the inlet port for the pressurized air are respectively arranged outside the opening holes arranged at the two locations in the combination as claimed.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (703) 305-8194. The examiner can normally be reached on Tuesday to Friday from 8:00 A.M. to 6:00 P.M..
The fax number of this Group 2800 is (703) 305-3431 or 305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



ANH T.N. VO
PRIMARY EXAMINER

September 19, 2002